



45 Feld Street, Windhoek, Namibia  
PO Box 81808, Windhoek, Namibia  
Tel: (+264) 61 248 614 Fax: (+264) 61 238 586 Web: [www.gcs-na.biz](http://www.gcs-na.biz)

# Environmental Management Plan (EMP) for the Proposed Exploration Activities on Exclusive Prospecting Licence (EPL) 7547 in the Erongo Region

EMP

Final

24 January 2022



Epangelo Mining Company (Proprietary) Limited

GCS Project Number: 20-1099

Client Reference: EIA EPL 7547



**Environmental Management Plan (EMP) for Proposed Exploration Activities on Exclusive  
Prospecting Licence (EPL) 7547 in the Erongo Region**

**EMP**

**Version - Final**




**24 January 2022**



**Epangelo Mining Company (Proprietary) Limited**

20-1099

**DOCUMENT ISSUE STATUS**

<b>Report Issue</b>	Final		
<b>GCS Reference Number</b>	GCS Ref - 20-1099		
<b>Client Reference</b>	EIA EPL 7547		
<b>Title</b>	Environmental Assessment (EA) for Proposed Exploration Activities on Exclusive Prospecting Licence (EPL) 7547 in the Erongo Region		
	<b>Name</b>	<b>Signature</b>	<b>Date</b>
<b>Author 1</b>	Stephanie Strauss		November 2021
<b>Document Reviewer</b>	Gerda Bothma		November 2021
<b>Director</b>	Magnus van Rooyen		November 2021

**LEGAL NOTICE**

This report or any proportion thereof and any associated documentation remain the property of GCS until the mandator effects payment of all fees and disbursements due to GCS in terms of the GCS Conditions of Contract and Project Acceptance Form. Notwithstanding the aforesaid, any reproduction, duplication, copying, adaptation, editing, change, disclosure, publication, distribution, incorporation, modification, lending, transfer, sending, delivering, serving or broadcasting must be authorised in writing by GCS.

## CONTENTS PAGE

<b>1</b>	<b>OVERVIEW</b> .....	<b>1</b>
1.1	PROJECT BACKGROUND .....	1
1.2	PURPOSE OF THE EMP .....	1
1.3	ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP).....	2
1.4	LEGAL REQUIREMENTS.....	3
1.5	ASSUMPTIONS AND LIMITATIONS.....	6
1.6	REPORT STRUCTURE .....	6
<b>2</b>	<b>ROLES AND RESPONSIBILITIES</b> .....	<b>6</b>
2.1	PROPONENT’S REPRESENTATIVE .....	7
2.2	ENVIRONMENTAL CONTROL OFFICER.....	7
<b>3</b>	<b>ENVIRONMENTAL MANAGEMENT PLAN ACTIONS</b> .....	<b>8</b>
3.1	KEY POTENTIAL ENVIRONMENTAL IMPACTS TO BE MANAGED .....	8
3.2	PHASE 1: PLANNING AND DESIGN MANAGEMENT ACTIONS .....	9
3.3	PHASE 2: OPERATIONAL PHASE MANAGEMENT ACTIONS .....	11
3.4	PHASE 4: REHABILITATION AND DECOMMISSIONING MANAGEMENT ACTIONS.....	17
3.5	RECOMMENDATIONS FOR MONITORING .....	18
<b>4</b>	<b>CONCLUSIONS</b> .....	<b>18</b>

## LIST OF FIGURES

Figure 1-1:	Locality map for EPL 7547.....	1
-------------	--------------------------------	---

## LIST OF TABLES

Table 1-1:	Applicable and relevant Namibian legislations and guidelines for the EA process ..	3
Table 2-1:	Responsibilities assigned to the Proponent’s Representative for planning and design, operation and decommissioning phases .....	7
Table 3-1:	Summary of key potential environmental impacts per project phase.....	8
Table 3-2:	Planning and design management actions .....	9
Table 3-3:	Operation phase management actions .....	11
Table 3-4:	Decommissioning phase management actions .....	17

## 1 OVERVIEW

### 1.1 Project Background

Epangelo Mining Company (Proprietary) Limited (The Proponent or Epangelo Mining hereafter) proposes to undertake exploration activities on Exclusive Prospecting License (EPL) 7547 in the Erongo Region. EPL 7547 is located in the western part of Namibia approximately 32 km east of Arandis within the Karibib Constituency. EPL 7547 size measures approximately 21193.397 Hectares in extent. The EPL extends over Farms Bloemhof, Vlakteplaas, Geluk, Jakkalswater and Vredelus. The locality of the EPL is depicted in Figure 1-1 below.

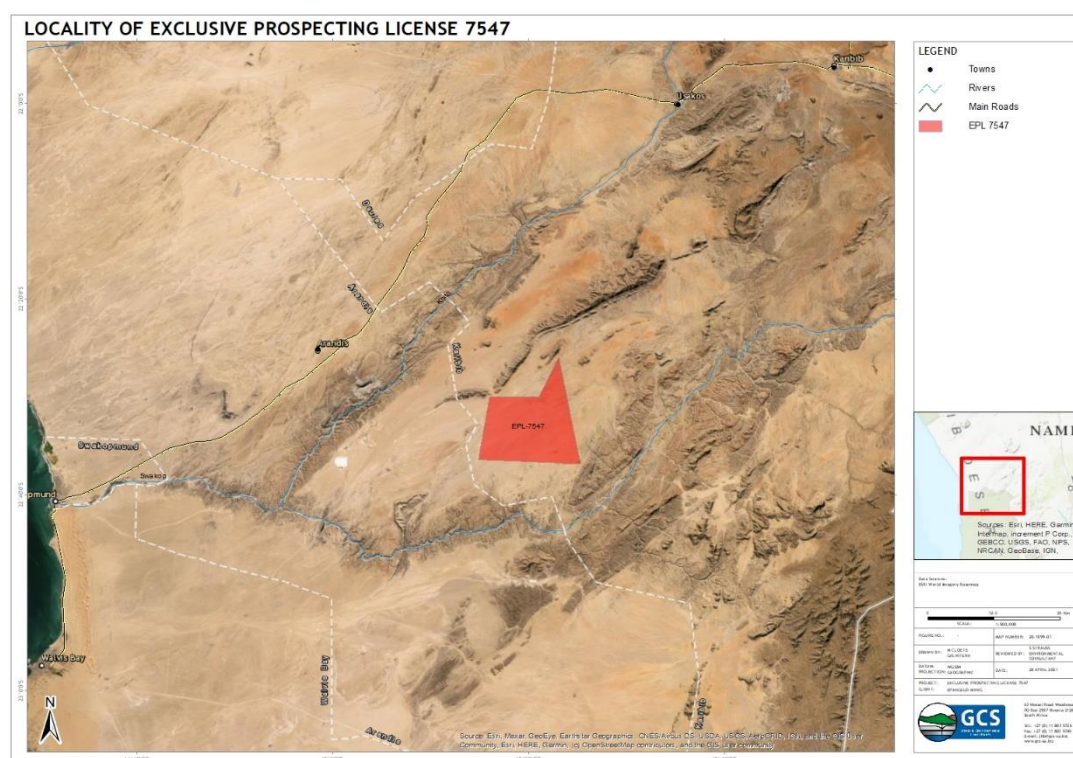


Figure 1-1: Locality map for EPL 7547

### 1.2 Purpose of the EMP

Regulation 8 of the Environmental Management Act's (EMA) (7 of 2007) Environmental Impact Assessment Regulations (2012) requires that a draft Environmental Management Plan (EMP) be included as part of the scoping Environmental Assessment (EA) process. A 'management plan' is defined as:

*"...a plan that describes how activities that may have significant environments effects on the environment are to be mitigated, controlled and monitored."*

An EMP is one of the most important outputs of the EA process as it synthesises all the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides a link between the impacts identified in the Environmental Impact Assessment (EIA) Process and the required environmental management on the ground during project implementation and operation. It is important to note that an EMP is a legally binding document and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and should be amended to adapt to project changes and/or environmental conditions and feedback from compliance monitoring.

The purpose of this document is therefore to guide environmental management throughout the following life-cycle stages of the proposed development, pre-operation (planning and design), operation and decommissioning.

The following phases are addressed in this EMP:

- **Planning and design (Pre-operation)** - the period, prior to the exploration phase, during which preliminary legislative and administrative arrangements are carried out in preparation of exploration activities;
- **Operation** - the period during which the exploration activities will be operational.
- **Decommissioning** - Should the development be closed; this phase will be implemented.

### **1.3 Environmental Assessment Practitioner (EAP)**

GCS Water Environmental Engineering Namibia (Pty) Ltd (“GCS” hereafter) has been appointed by Epangelo Mining as independent environmental consultants to conduct the required Environmental Assessment (EA) which includes compiling an EMP for the proposed development. The EMP is to be submitted with the scoping EA report as supporting documents to the application for an Environmental Clearance Certificate (ECC) to the Environmental Commissioner at the Department of Environmental Affairs (DEA) of the Ministry of Environment, Forestry and Tourism (MEFT). The EMP will also be used by Contractors as well as the Proponent in guiding them during the proposed exploration operations to ensure that impacts on the environment are limited or avoided altogether.

## 1.4 Legal Requirements

The contents of the EMP must meet the requirements Section 8 (j) of the EIA Regulations. The EMP must address the potential environmental impacts of the proposed activity on the environment throughout the project life cycle. It must also include a system for assessment of the effectiveness of monitoring and management arrangements after implementation. Epangelo Mining therefore has the responsibility to ensure that the proposed activity as well as the EIA process conforms to the principles of EMA and must ensure that any contractors appointed by them also comply with such principles.

Table 1-1 below lists the requirements of an EMP as stipulated by Section 8 (j) of the EIA Regulations.

**Table 1-1: Applicable and relevant Namibian legislations and guidelines for the EA process**

Legislation	Permit/Approval/Requirement	Contact Details
Environmental Management Act 2007 Environmental Impact Assessment (EIA) Regulations (EIAR) (GG No. 4878)	Amendments (required every 3 years) to this EMP will require an amendment of the ECC for these developments.  Activities listed in Government Notice (GN) No. 29 of GG No. 4878 require an ECC.	Mr Damian Nchindo  Department of Environmental Affairs, Ministry of Environment, Forestry and Tourism  Tel: 061 284 2701
Water Act 54 of 1956	Prohibits the pollution of underground and surface water bodies (S23 (1)).  Liability of clean-up costs after closure/abandonment of an activity (S23 (2)).	Mr Witbooi (Department of Water Affairs):  Tel: (061) 208 7226
Water Resources Management Act No.11 of 2013	The act provides for the management, protection, development, use and conservation of water resources; and provides for the regulation and monitoring of water services and to provide for incidental matters. The objects of this Act are to:	

Legislation	Permit/Approval/Requirement	Contact Details
	Ensure that the water resources of Namibia are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, the fundamental principles set out in Section 66 - protection of aquifers, Subsection 1 (d) (iii) provide for preventing the contamination of the aquifer and water pollution control (Section 68).	
Forestry Act 12 of 2001	The Act provides for the management and use of forests and related products / resources. It offers protection to any living tree, bush or shrub growing within 100 metres of a river, stream or watercourse on land that is not a surveyed erven of a local authority area. In such instances, a licence would be required to cut and remove any such vegetation.  These provisions are only guidelines.	If there are trees within the proposed footprint of the project area that need to be removed, the proponent should notify the local Forestry Department of the number and/or type of trees to be removed to allow exploration activities and apply for permit to remove protected tree species.
Minerals (Prospecting and Mining) Act 33 of 1992	To provide for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control over, minerals in Namibia; and to provide for matters incidental thereto.	Mr Erasmus Shivolo Ministry of Mines and Energy Mining Commissioner Tel: 061 -284 8167

Legislation	Permit/Approval/Requirement	Contact Details
National Heritage Act (27 of 2004)	Part V Section 46 of the Act prohibits removal, damage, alteration or excavation of heritage sites or remains. Section 48 ff sets out the procedure for application and granting of permits such as might be required in the event of damage to a protected site occurring as an inevitable result of development. Section 51 (3) sets out the requirements for impact assessment. Part VI Section 55 Paragraphs 3 and 4 require that any person who discovers an archaeological site should notify the National Heritage Council. Heritage sites or remains are defined in Part 1, Definitions 1, as “any remains of human habitation or occupation that are 50 or more years old found on or beneath the surface”.	Ms. Erica Ndalikokule National Heritage Council of Namibia erica@nhc-nam.org



## 1.5 Assumptions and Limitations

This EMP has been drafted with the acknowledgment of the following assumptions and limitations:

- This EMP has been drafted based on the scoping-level Environmental Impact Assessment (EIA) conducted for the proposed development on EPL 7547 inclusive of a desktop Archeological Assessment. No detailed specialist studies were included as part of the assessment; and
- The mitigation measures recommended in this EMP document is based on the risks/impacts in the scoping report which were identified based on the provided project description and site investigation. Should the scope of the project change, the risks will have to be reassessed and mitigation measures provided accordingly.

## 1.6 Report Structure

This EMP lays out the management actions for the proposed exploration activities on EPL 7547. The EMP addresses the following phases:

- **Pre-Operational (Planning and design) phase** - the period, prior to exploration, during which preliminary legislative and administrative arrangements are carried out in preparation for the proposed exploration activities;
- **Operation phase** - the period during which exploration activities will be operational and conducted by the proponent and/or their contractors; and
- **Decommissioning phase:** the period during which the Proponent may decide to discontinue the operations of exploration and its associated activities.

## 2 ROLES AND RESPONSIBILITIES

Epangelo Mining (the Proponent) is ultimately responsible for the implementation of the EMP. The Proponent may delegate this responsibility at any time, as they deem necessary, from planning and design to operation and maintenance phase and decommissioning phase (if considered). The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals which may be fulfilled by the same person:

- Proponent's Representative
- Environmental Control Officer

## 2.1 Proponent's Representative

If the Proponent does not personally manage all aspects of the planning and design, operation and decommissioning activities, referred to in this EMP, they should assign this responsibility to a suitably qualified individual referred to in this plan as the Proponent's Representative (PR). The Proponent may decide to assign the role of a PR to one person for both phases. Alternatively, the Proponent may decide to assign a separate PR for each component i.e. planning and design, operation, and decommissioning phase. The PR's responsibilities are included in Table 2-1 below.

**Table 2-1: Responsibilities assigned to the Proponent's Representative for planning and design, operation and decommissioning phases**

Responsibility	Project Phase
Managing the implementation of this EMP and updating and maintaining it when necessary	Throughout the lifetime of the project
Management and monitoring of individuals and/or equipment on-site in terms of compliance with this EMP	Throughout the lifetime of the project
Issuing fines for contravening EMP provisions	Throughout the lifetime of the project

## 2.2 Environmental Control Officer

The Proponent should assign the responsibility of overseeing the implementation of the whole EMP on the ground from the planning and design phase to operation and decommissioning phase to a designated person, referred to in this EMP as the Environmental Control Officer (ECO). The Proponent may decide to assign this role to one person for both phases or may assign separate individual ECOs to oversee EMP implementation during each phase. The ECOs will have the following responsibilities:

- Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) with regard to this EMP;
- Conducting site inspections (recommended minimum frequency is monthly during exploration and bi-annually during decommissioning) of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP);
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP;
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP; and

- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.

### 3 ENVIRONMENTAL MANAGEMENT PLAN ACTIONS

#### 3.1 Key Potential environmental impacts to be managed

From the EA, the following key potential impacts have been identified per project phase and are summarised in **Table 3-1** below. The full impact description is presented in the tables under subchapter 3.2 to 3.5 as well as in the Scoping Report.

**Table 3-1: Summary of key potential environmental impacts per project phase**

	Project Phase	Potential impacts identified in the EA
1	Pre-Operation	Biodiversity and archaeological impacts
2	Operation	Health and safety, soil, surface and groundwater contamination, wildlife disturbance, dust, noise, environmental degradation, erosion, archaeological and social impacts.
3	Decommissioning	Loss of employment and soil, surface and groundwater contamination.

The aim of the management actions of the EMP is to avoid potential impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

Management actions recommended to manage the potential impacts rated in the EA carried out for the proposed exploration development are presented in the following tables. The management actions were compiled based on the three project phases:

- Planning and design phase (pre-exploration) (**Table 3-2**).
- Operation and maintenance phase management actions (during exploration activities) (**Table 3-3**).
- Decommissioning phase (**Table 3-4**)

The responsible persons at Epangelo Mining should assess these commitments in detail and should acknowledge their commitment to the specific management actions detailed in the table of the next subchapters.

### 3.2 Phase 1: Planning and Design Management Actions

The management requirements detailed in **Table 3-2** need to be carried out before any exploration activities commence on site while necessary preliminary legislative and administrative arrangements are made in preparation for the proposed exploration activities.

**Table 3-2: Planning and design management actions**

Aspect	Management Requirement
Labour Recruitment	<p>Provisions designed to maximise the use of local labour should be included within tenders concerning the:</p> <ul style="list-style-type: none"> <li>• Provision stating that all unskilled labour should be sourced from local communities should be included within tenders concerning the exploration operations.</li> <li>• Specific recruitment procedures ensuring local firms enjoy preference during tender adjudication should be included within tenders concerning the exploration operations.</li> <li>• Provisions promoting gender equality pertaining to recruitment should be included within tenders concerning the exploration operations.</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>• A vegetation study should be undertaken within those areas that will be affected by exploration activities and related infrastructure.</li> <li>• All trees (a “tree” is defined here as an indigenous woody perennial plant with a trunk diameter <math>\geq 150</math> mm) that occur within the development site should be surveyed and not removed from site.</li> <li>• Trees that have not been registered and surveyed and will be removed, the Proponent should apply for the licence to remove these trees from the local Forestry department (Ministry of Environment, Forestry and Tourism).</li> <li>• Large indigenous trees and protected tree species within to be kept the site should be surveyed and marked with red paint.</li> </ul>
EMP Implementation	<ul style="list-style-type: none"> <li>• The proponent should appoint a Proponent’s Representative (PR) that will act as their on-site implementing agent. This person should be responsible to ensure that the Proponent’s responsibilities are executed in compliance with relevant legislation and this EMP.</li> </ul>

Aspect	Management Requirement
Consultation with affected farmers	<ul style="list-style-type: none"> <li>• Consultation meetings should be held with the affected farm owners prior to any exploration activities commencing on site in order to provide them with the following information               <ul style="list-style-type: none"> <li>○ Detailed work plan with regards to the exploration activities.</li> <li>○ Discussion of access agreements.</li> <li>○ Discussion of compensation (as necessary).</li> <li>○ Any other concerns or information requirements that the farmers may have.</li> </ul> </li> </ul>
Agreements with community affected by the activity	<ul style="list-style-type: none"> <li>• Access agreements need to be made with the farm owner's members most likely to be affected by the exploration activities in the area.</li> <li>• The agreement should include but is not limited to:               <ul style="list-style-type: none"> <li>○ Compensation agreements (if necessary).</li> <li>○ Agreed upon operating hours.</li> <li>○ A commitment by the exploration company for the rehabilitation of the site when exploration activities are decommissioned.</li> <li>○ Agreed upon access to the site.</li> <li>○ Commitment to the adherence and implementation of the EMP.</li> <li>○ The Scoping Report and EMP for reference.</li> </ul> </li> </ul>
Archaeology	<ul style="list-style-type: none"> <li>• An archaeological expert must be appointed to undertake a detailed archaeological survey once targets have been identified for drilling and/or other mechanically-assisted exploration</li> <li>• This should be done in conjunction with the farm owners within the EPL area.</li> <li>• Once the exact locations of the exploration sites are determined, and should a heritage or archaeological site be uncovered, an Archaeological Chance Finds Procedure should be applied as outlined in Appendix K of the Scoping Report.</li> </ul>

### 3.3 Phase 2: Operational Phase Management Actions

The management actions for the operational phase during which the exploration activities will take place are listed in Table 3-3.

**Table 3-3: Operation phase management actions**

Environmental Feature	Impact	Management Actions
EMP training	Lack of EMP awareness and the implications thereof	<ul style="list-style-type: none"> <li>Employees appointed for exploration work must ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective work.</li> </ul>
Monitoring	EMP non-compliance	<ul style="list-style-type: none"> <li>The ECO or the Proponent/Proponents Representative should monitor the implementation of this EMP.</li> <li>The Proponents Representative should inspect the site throughout the exploration at least on a monthly basis.</li> <li>Bi-annual audits should be conducted of site activities by an external ECO.</li> </ul>
Waste Management	Visual impact and soil contamination	<ul style="list-style-type: none"> <li>The exploration site should always be kept tidy.</li> <li>All domestic and general waste produced daily should be cleaned and contained daily.</li> <li>No waste may be buried or burned.</li> <li>Waste containers (bins) should be emptied regularly and removed from site to the nearest municipal waste disposal site.</li> <li>All recyclable waste needs to be taken to the nearest recycling depot.</li> <li>A sufficient number of separate waste containers (bins) for hazardous and domestic / general waste must be provided on site.</li> <li>Exploration workers should be sensitised to dispose of waste in a responsible manner and not to litter.</li> <li>No waste may remain on site after the completion of the project.</li> </ul>
Hazardous Waste	Soil and groundwater contamination	<ul style="list-style-type: none"> <li>All heavy operation vehicles and equipment on site should be provided with a drip tray.</li> <li>All heavy operation vehicles should be maintained regularly to prevent oil leakages.</li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• Maintenance and washing of operation vehicles should take place only at a designated workshop area.</li> </ul>
Wastewater	Groundwater contamination	<ul style="list-style-type: none"> <li>• Use of the toilets instead of the veld must be strictly adhered to.</li> <li>• If grey water can be collected from ablution facilities at the contractors' camp it should be recycled and: <ul style="list-style-type: none"> <li>○ Used for dust suppression;</li> <li>○ Used to water vegetable gardens or to support a small nursery in local communities (as and when agreed upon by such communities); and/or</li> <li>○ Used to clean equipment.</li> </ul> </li> <li>• All run off materials such as hydrocarbons, wastewater and other potential contaminants should be contained on site and disposed of in accordance with municipal wastewater discharge standards, so that they do not reach to ground or surface water systems.</li> <li>• Wastewater (excluding sewage) should be drained into lined / impermeable catch pits, big enough for daily / weekly usage without overflowing. Water from these catch pits should be removed from site to the nearest wastewater treatment facility by an approved wastewater removal company.</li> <li>• Groundwater impact awareness training should be provided to the employees involved in this project phase.</li> <li>• An emergency plan should be available for major / minor spills and firefighting at the exploration site during exploration activities (with consideration of air, groundwater, soil and surface water).</li> </ul>
Soil	Soil contamination	<ul style="list-style-type: none"> <li>• Spill control preventative measures should be put in place to manage soil contamination.</li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• An impermeable liner should be laid down on the site area in order to prevent contaminants from reaching to surrounding soils and eventually groundwater systems.</li> <li>• Potential contaminants such as hydrocarbons and wastewater should be contained on site and disposed of in accordance to municipal wastewater discharge standards so that they do not contaminate surrounding soils.</li> <li>• Soil contamination should be monitored on site daily by PR and monthly by ECO.</li> <li>• ECO(s) should ensure that a sufficient number of drip trays are available on-site and that these are utilised in the event of leakage from construction trucks or vehicles.</li> <li>• Contaminated soils onsite that may have resulted from leakage/spillage from construction vehicles or equipment should be removed to a depth dependent on the size of the spill and replaced with clean soil. The contaminated soil should be removed and disposed at a designated landfill site suitable to receive contaminated soil.</li> </ul>
Biodiversity	Loss of Biodiversity	<ul style="list-style-type: none"> <li>• Recommendations as provided by the vegetation study with regards to the protection of biodiversity in the area should be adhered to during exploration activities.</li> <li>• Trees with a trunk size of 150 mm and bigger should be surveyed, marked with paint (readily visible) and protected.</li> <li>• The Proponent should only remove trees within the actual footprint of the specific exploration activities. Trees that are not within the footprint should be left to preserve biodiversity in the area.</li> <li>• If cleared, the numbers of protected, endemic and near endemic species removed should be documented.</li> </ul>



Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• Trees and plants protected under the Forest Act No 12 of 2001 are not to be removed without a valid permit from the local Department of Forestry.</li> </ul>
Dust and noise	Nuisance impacts	<ul style="list-style-type: none"> <li>• The contractor(s) should suppress dust associated with exploration activities by using a reasonable amount of water.</li> <li>• If feasible, wastewater should be treated to an acceptable water quality level, so that it can be used for exploration purposes (dust suppression).</li> <li>• Noise levels during exploration activities should be kept within the allowable standards for urban areas.</li> <li>• Noise levels should adhere to the SANS restrictions on noise.</li> <li>• Work hours should be restricted to between 08h00 and 17h00 due to the use of heavy equipment, power tools and the movement of heavy vehicles.</li> <li>• Noisy equipment should be shut down when not in use (when not needed) to avoid unnecessary noise on site.</li> <li>• Workers performing noisy tasks should be rotated regularly (work on shifts) to avoid exposing them to excessive noise for a long period of time in a day.</li> <li>• Workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce noise exposure.</li> <li>• Workers should ensure that they wear the PPE at all times on work sites.</li> </ul>
Health and Safety	Health and safety impacts	<ul style="list-style-type: none"> <li>• The contractor(s) should ensure that all personnel are provided with personal protective equipment (PPE), such as coveralls, gloves, safety boots, safety glasses and hard hats at all times.</li> <li>• Workers should ensure that they wear the PPE at all times on work sites.</li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• No workers should be allowed to drink alcohol during working hours.</li> <li>• No workers should be allowed on site if under the influence of alcohol.</li> <li>• An appropriate location should be indicated on the site for the parking of operation vehicles.</li> <li>• Public access to the exploration site should be prohibit.</li> </ul>
Exploration labourers		<ul style="list-style-type: none"> <li>• The Proponent should ensure that locals from the surrounding areas are employed for any unskilled labour.</li> <li>• Exploration labourers should not be recruited on-site.</li> <li>• Portable toilets (i.e. easily transportable) should be available on site.</li> <li>• Separate ablutions should be available for men and women and should clearly be indicated as such.</li> <li>• Sewage waste needs to be removed on a regular basis to the nearest approved sewage disposal site.</li> <li>• Workers responsible for cleaning the toilets should be provided with latex gloves and masks.</li> <li>• No workers may reside on-site for the entire duration of the exploration period. Only a security guard will be allowed to sleep on-site (if there will be any).</li> <li>• The Proponent or contractor should draft a Communication Plan, which should outline as a minimum the following: <ul style="list-style-type: none"> <li>• How stakeholders, who require ongoing communication for the duration of the exploration period, will be identified and recorded and who will manage and update these records.</li> <li>• How these stakeholders will be consulted on an ongoing basis.</li> </ul> </li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• Provision should be made for a grievance mechanism - outlining how concerns will be lodged/recorded and how feedback will be delivered, inclusive of further steps of arbitration in the event that feedback is deemed unsatisfactory.</li> <li>• Stakeholders need to be informed of the communication plan once drafted to ensure they are aware of the relevant communication channels.</li> </ul>
Water	Groundwater contamination	<ul style="list-style-type: none"> <li>• No wastewater / effluent should be allowed to leave the site premises without proper control.</li> <li>• These should be disposed of in accordance with municipal wastewater discharge standards.</li> <li>• Regular maintenance and monitoring of exploration equipment and vehicles should be done to detect early spills or leakages.</li> <li>• An emergency plan should be available for major / minor spills at the exploration site during operation activities (with consideration of air, groundwater, soil and surface water).</li> <li>• Groundwater impact awareness training should be provided to the employees involved in this phase.</li> </ul>
Wildlife and Stock animals	Disturbance of wildlife and stock theft	<ul style="list-style-type: none"> <li>• Working hours should be limited to during the day, thus enabling the wildlife to roam freely at night.</li> <li>• The contractor is to compile a Non-Theft Policy to which all workers are to comply with.</li> <li>• All exploration workers are to adhere to the Non-Theft Policy.</li> </ul>

### 3.4 Phase 4: Rehabilitation and Decommissioning Management Actions

The table below (Table 3-4) presents the management action for decommissioning phase.

**Table 3-4: Decommissioning phase management actions**

Environmental Feature	Impact	Management Actions
Employment	Loss of employment	<ul style="list-style-type: none"> <li>The Proponent should inform the employees, of its intentions to cease the exploration activities, and the expected date of such.</li> <li>The Proponent should raise awareness of the possibilities for work in other industrial sectors.</li> </ul>
Rehabilitation	Groundwater contamination	<ul style="list-style-type: none"> <li>During the initial prospecting phase, only limited surface rock and soil sampling will take place and it is unlikely that any scars be left by this activity.</li> <li>Remove all waste, defunct samples, and any other remains from the site.</li> <li>Remove all sample bags, plastic waste, survey pegs, materials used for sump creation etc. from site at completion of sampling schedule.</li> <li>Site should be rehabilitated to as close as possible to its original condition.</li> <li>Re-contour and rip the drill site before the site is finally decommissioned.</li> <li>Fill holes, rip up, rake track, and spread stockpiled topsoil back over the entire new tracks made, to allow re-vegetation.</li> <li>Make sure that the ECO has a site inspection prior to and after rehabilitation to check rehabilitation efforts of each drill site.</li> </ul>

### 3.5 Recommendations for Monitoring

In order to prevent and minimize the above-mentioned environmental impacts, the following site monitoring measures need to be done:

- Monitor whether provisions as set out in the EMP has been complied with.
- Non-compliance is to be recorded and discussed at weekly site meetings and timeous remedial actions taken.
- Should dust and noise complaints be received, abatement measures should be implemented such as water spraying, and continued communication should be held with the aggrieved parties until the noise and dust matters are clarified.

## 4 CONCLUSIONS

Based on the recommendation given in this EMP, GCS is confident that the proposed exploration activities, as described in **Chapter 2** of the scoping report may be granted an Environmental Clearance Certificate, provided that the EMP is implemented and that all the legal requirements pertaining to this development are complied with.